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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/055,145	04/03/1998	DONALD P. WEEKS	3553-18	3535

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EXAMINER

KRUSE, DAVID H

ART UNIT	PAPER NUMBER
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1638

DATE MAILED: 06/13/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/055,145

Applicant(s)

WEEKS ET AL

Examiner

David H Kruse

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-7, 21-24, 36-39, 44, 47, 48 and 50-65 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 4, 5, 7, 21, 24, 36, 39, 44, 47, 48, 50-52, 54-56 and 58-65 is/are rejected.
- 7) ☒ Claim(s) 3, 6, 22, 23, 37, 38, 53 and 57 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☒ Other: Copy of renumbered claims

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR § 1.114, including the fee set forth in 37 CFR § 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR § 1.114, and the fee set forth in 37 CFR § 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR § 1.114. Applicant's submission filed on 1 April 2002 as Paper No. 22 has been entered.
2. Claims 1-5, 7, 21, 24, 36, 28, 39, 44, 47 and 48 have been amended.
3. New claims 49-64 have been entered and renumbered under 37 CFR § 1.126 as claims 50-65. Claim 49 is an originally filed claim that has been cancelled. In addition, the dependency of claims 24, 39, 44, 47 and 48 has been corrected to reflect the renumbering of the new claims. Applicants should correct their copy of the amendment to reflect these changes.
4. The Weeks Declaration submitted 1 April 2002 is addressed below.
5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claim Objections

6. Claims 44, 47 and 48 are objected to under 37 CFR § 1.75(c) as being in improper form because a multiple dependent claim cannot depend from any other multiple dependent claim. See MPEP § 608.01(n). Appropriate correction is required.

Claim Rejections - 35 USC § 112

7. Claims 47 and 48 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

At claim 47, lines 3-4, the phrase "a DNA construct" should read -- the DNA construct -- in referring to the DNA construct of the claims to which claim 47 depends.

At claim 48, line 2, the phrase "which may comprise" is indefinite and does not state the metes and bounds of the claimed invention because said phrase does not denote a positive feature of the claimed method. At line 3, the phrase "a DNA construct" should read -- the DNA construct -- in referring to the DNA construct of the claims to which claim 48 depends.

8. Claims 1, 4, 7, 39, 44, 47 and 48 remain rejected and claims 2, 5, 21, 24, 36, 39, 44, 47, 48, 50-52, 54-56 and 58-65 are rejected under 35 U.S.C. § 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. This rejection is repeated for the reason of record as set forth in the last Office action mailed 22 October 2001. Applicant's arguments filed 01 April 2002 have been fully considered but they are not persuasive.

Applicant argues that the claims have been amended to claim a DNA sequence encoding a dicamba-degrading oxygenase from a dicamba-degrading bacterium, or to at least a *Pseudomonas* DNA sequence (paragraph spanning pages 6-7 of the

Remarks). The Examiner responds that the issue of *University of California V. Eli Lilly* remains as discussed in the 22 October 2001 Office Action. Specifically, a description of a method for obtaining cDNA from a particular organism and the description of the encoded protein fail to provide an adequate written description of the actual cDNA from that organism which would encode the protein from that organism.

Applicant argues that the Weeks Declaration (filed 30 July 2001 as Paper No. 14) demonstrates that using the disclosed method, several additional genes encoding dicamba-degrading oxygenases can be readily identified in other bacteria (page 7 of the Remarks). The Examiner responds, on page 4 of the Weeks Declaration, lines 18-20, Dr. Weeks concludes that each of the three newly-discovered strains contains at least one dicamba-degrading oxygenase gene, but this conclusion is solely based on the ability of the isolated DNA of the three strains to bind to a probe developed from the DNA encoding a dicamba-degrading oxygenase described in the instant specification, and not on empirical evidence that the strains actually contain a DNA encoding a dicamba-degrading oxygenase.

Applicant argues that procedures that can be used to make and identify DNAs that fall within the "scope" of claim 2 are conventional in the art and an assay is described to identify proteins having the claimed activity (page 8, 2nd paragraph of the Remarks). The Examiner responds that, especially directed to claims 1, 4, 7, 50, 51, 54 and 55, in addition to those claims to DNA molecules encoding a dicamba-degrading oxygenase having a specific homology to that described by Applicant, a description of a

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DNA molecule encoding an enzyme based solely on function does not constitute a proper description of that DNA molecule.

Applicant argues that the Weeks Declaration submitted 1 April 2002 provides evidence that transgenic plants expressing a transgene encoding the dicamba-degrading oxygenase of the present invention are in fact tolerant to dicamba as compared to the non-transgenic controls (page 8, 3rd paragraph of the Remarks). The Examiner responds that the instant claims are not limited to the dicamba-degrading oxygenase described in the instant application shown in SEQ ID NO: 4, but also to other dicamba-degrading oxygenases not described in the instant application.

9. Claims 1, 4, 7, 21, 24, 36, and claims 39, 44, 47 and 48 remain rejected and claims 2, 5, 50-52, 54, 55 and 58-65 are rejected under 35 U.S.C. § 112, first paragraph, because the specification, while being enabling for the DNA molecule of SEQ ID NO: 3, DNA molecules encoding the dicamba-degrading oxygenase of SEQ ID NO: 4, methods of using said DNA molecules and plants comprising said molecules, does not reasonably provide enablement for any DNA molecule encoding a dicamba-degrading oxygenase. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims. Claims 39, 44, 47 and 48 are included in this rejection in view of the Weeks Declaration submitted 1 April 2002, modifying the rejection for enablement of the previous Office action mailed 30 January 2001. This rejection is repeated for the reason of record as set forth in the last Office

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action mailed 30 January 2001. Applicant's arguments filed 30 July 2001 have been fully considered but they are not persuasive.

Applicant argues that using methods described in the specification, Applicants have demonstrated the identification of dicamba-degrading oxygenases from other bacterial species, including bacteria of a species other than *Pseudomonas* (page 10, 2nd paragraph of the Remarks). The Examiner responds, the issue of what Applicant has demonstrated is discussed supra.

As to claims 39, 44, 47 and 48, directed to a plant tolerant to dicamba as a result of the expression of a dicamba-degrading oxygenase and methods of using or selecting said plant, Applicant, in the form of the 1 April 2002 Weeks Declaration, has only demonstrated dicamba tolerance using the sequence of SEQ ID NO: 3 in a transgenic plant. Having not isolated or described other DNA sequences encoding a dicamba-degrading oxygenase, or plants transformed therewith, one of skill in the art cannot reasonably predict that a plant transformed with any DNA sequence encoding a dicamba-degrading oxygenase would in fact be tolerant to dicamba. The art teaches that tobacco, transformed with a soybean P450 monooxygenase cDNA, overexpressing said P450 monooxygenase greatly enhanced the plant's capacity to metabolize several phenylurea herbicides, yet the transformed tobacco plant was not tolerant to all of the phenylurea herbicides (see Siminszky *et al* 1999, Proc. Natl. Acad. Sci. USA, 96:1750,1755, see especially page 1755, left column, 2nd paragraph). Hence, it would have required undue trial and error experimentation by one of skill in the art at the time of Applicant's invention to screen through all dicamba-degrading oxygenase encoding

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DNA sequences to determine which DNA sequence would confer on a transformed plant dicamba tolerance, given the limited guidance of the instant specification.

Allowable Subject Matter

10. Claims 3, 6, 22, 23, 37, 38, 53 and 57 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. No claims are allowed.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David H. Kruse, Ph.D. whose telephone number is (703) 306-4539. The examiner can normally be reached on Monday to Friday from 8:00 a.m. to 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dr. Amy Nelson can be reached at (703) 306-3218. The fax telephone number for this Group is (703) 872-9306 Before Final or (703) 872-9307 After Final.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to Kim Davis whose telephone number is (703) 305-3015.

David H. Kruse, Ph.D.
10 June 2002

DAVID T. FOX
PRIMARY EXAMINER
GROUP ~~180~~ 1638

David T. Fox